

**Abstract**

An optical transmission line and an optical transmission system, the handling of which is easy, and in which transmission loss and the absolute value of cumulative chromatic dispersion is small over a wide wavelength range are proposed. The optical transmission system has a transmitter, a receiver and an optical transmission line. The optical transmission line has an optical transmission fiber and a dispersion-compensating fiber. The optical transmission fiber has a chromatic dispersion of  $+4 \sim +10 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$  and a dispersion slope of  $0 \sim +0.04 \text{ ps} \cdot \text{nm}^{-2} \cdot \text{km}^{-1}$  at the 1550 nm wavelength and is installed in a relay section. The dispersion compensating fiber has a chromatic dispersion of  $-40 \text{ ps} \cdot \text{nm}^{-1} \cdot \text{km}^{-1}$  or less and a dispersion slope of  $-0.10 \text{ ps} \cdot \text{nm}^{-2} \cdot \text{km}^{-1}$  or less at the 1550 wavelength and is wound in a coil to be put in a repeater.